

**TABLE 1: Antigenic determinants of BCR-ABL**

Peptide		Sequence	Seq. I.D. No.	Fixation to HLA
247-255		EDAELNPRF	38	B44
488-496		SELDLEKGL	39	B44
768-776		DELEAVPNI	40	B44
901-934	b2a2	KEDALQRPV	41	B44
902-935	b2a2	EDALQRPVA	42	B44
986-994		GEKLRVLGY	43	B44
1176-1184		EDTMEVEEF	44	B44
1252-1260		MEYLEKKNF	45	B44
1691-1699		NEEAADDEVF	46	B44
49-57		VNQERFRMI	47	B 8
580-588		LFQKLASQL	48	B 8
722-730		ARKLRHVFL	49	B 8
786-794		ALKIKISQI	50	B 8
886-893		CVKLQTVH	51	B 8
928-936	b3a2	KALQRPVAS	52	B 8
1830-1838		GAKTKATSL	53	B 8
1975-1983		IQQMRNKFA	54	B 8
1977-1984		QMRNKFAF	55	B 8
252-260		NPRFLKDNL	56	B7
329-338		TPDCSSNENL	57	B7
693-701		TPRRQSMTV	58	B7
1058-1066		SPGQRSISL	59	B7
1196-1205		HPNLVQLLG	60	B7
1560-1569		SPKPSNGAGV	61	B7
1717-1725		KPLRRQVTV	62	B7
1878-1884		SPAPVPSTL	63	B7
36-44		ERCKASIRR	64	B27
71-79		DRQRWGFFRR	65	B27
575-583		QRVGDLFQK	66	B27

TABLE 1: Antigenic determinants OF BCR-ABL

Peptide	Sequence	Seq. I.D. No.	Fixation to HLA
834-842	FRVHSRNGK	67	B27
642-650	LLYKPVDRV	68	A2
684-692	FLSSINEEI	69	A2
708-716	QLLKDSFMV	70	A2
714-722	FMVELVEGA	71	A2
817-825	KLSEQESLL	72	A2
881-889	MLTNSCVKL	73	A2
908-917	GLYGFLNVIV	74	A2
912-920	FLNVTVHSA	75	A2
1240-1248	VLLYMATQI	76	A2
1903-1911	FIPLISTRV	77	A2
1932-1940	VVLDSTEAL	78	A2
50-58	NQERFRMIY	79	A1
223-231	VGDA SRPPY	80	A1
549-558	KVPELYEIHK	81	A3/A11
583-591	KLASQLGVY	82	A3/A11
715-724	MVELVEGARK	83	A3/A11
916-923	IVHSATGFK	84	A3/A11
920-928	b3a2 ATGFKQSSK	85	A3/A11
924-932	b3a2 KQSSKALQR	86	A3/A11
1156-1165	EVYEGVWKKY	87	A3/A11
1311-1320	SLAYNKFSIK	88	A3/A11
1499-1509	NLFSALIKK	89	A3/A11
1724-1734	TVAPASGLPHK	90	A3/A11
1905-1914	LISTRVSLRK	91	A3/A11
1922-1930	RIASGAITK	92	A3/A11
924-936 b3a2	KOSSKALQRPVAS	93	DR4

B^c

Cord.

TABLE 2 - Antigenic determinants of p53- antigenic determinants of p53 binding to HLA-A1:SEQ ID NO:

RVEGNLARVEY (196-205)

94

GSDCTTIHY (226-234)

95

- antigenic determinants of p53 binding to HLA-A2:

LLPENNVLSPL (25-35)

96

RMPEAAPPV (65-73)

97

RMPEAAPRV

98

ALNKMFCQL (129-137)

99

STPPPGTRV (149-157)

100

GLAPPQHLIRV (187-197)

101

LLGRNSFEV (264-272)

102

PLDGEYFTL (322-330)

103

- antigenic determinants of p53 binding to HLA-A3:

RVRAMAIYK (156-164)

104

RRTEEENLR (282-290)

105

ELPPGSTKR (298-306)

106

- antigenic determinants of p53 binding to HLA-B7:

LPENNVLSPL (26-35)

107

APRMPEAAPPV (63-73)

108

APRMPEAAPRV

109

APPQHLIRV (189-197)

110

RPILTIITL (249-257)

111

KPLDGETYFTL (321-330)

112

- antigenic determinants of p53 binding to HLA-B8:

CQLAKTCPV (135-143)

113

GLAPPQHLLI (187-195)

114

NTRFRHSVVV (210-218)

115

- antigenic determinants of p53 binding to HLA-B51:

LLPENNVLSPL (25-35)

116

RMPEAAPPV (65-73)

117

LIRVEGNLRV (194-203)

118

TABLE 3Antigenic determinants of proteins E₆ and E₇

YMLDLQPETT (E7 11-20)	SEQ ID NO: 119
LLMGTLGIV (E7 82-90)	SEQ ID NO: 120
TLGIVCPI (E7 86-93)	SEQ ID NO: 121
TIHDIILECV (E6 29-38)	SEQ ID NO: 122
KLPQLCTEL (E6 18-26)	SEQ ID NO: 123
RPPKLPQL (E6 8-15)	SEQ ID NO: 124
LRREVDYDFAFRDLCIVYRDGNPY (E6 45-67)	SEQ ID NO: 125
ISEYRHYCY (E6 80-88)	SEQ ID NO: 126
EKQRHLDKKQRFHNIRGRWT (E6 121-140)	SEQ ID NO: 127
GQAEPDRAHYNIVTF (E7 43-57)	SEQ ID NO: 284
QAEPDRAHY (E7 44-52)	SEQ ID NO: 128
EPDRAHYNIV (E7 46-55)	SEQ ID NO: 129

B7
cont.

TABLE 4: Antigenic determinants of the HIV-1 virusHLA-A1

(Nef 96-106: GLEGLIHSQRR	SEQ ID NO: 130
(Nef 121-128: FPDWQNYT	SEQ ID NO: 131
(Nef 137-145: LTFGWCYKL	SEQ ID NO: 132
(Nef 184-191: RFDSRLAF	SEQ ID NO: 133
(Nef 195-202: ARELHPEY	SEQ ID NO: 134

HLA-A2

Gp120 121-129: KLTPLCVTL	SEQ ID NO: 135
P17 77-85: SLYNTVATL	SEQ ID NO: 136
RT 200-208: ALVEICTEM	SEQ ID NO: 137
RT 275-285: VLDVGDAYFSV	SEQ ID NO: 138
RT 346-354: KIYQYMDDL	SEQ ID NO: 139
RT 368-376: KIEELRQHL	SEQ ID NO: 140
RT 376-387: LLRWGLTTPDK	SEQ ID NO: 141
RT 476-484: ILKEPVHGV	SEQ ID NO: 142
RT 588-596: PLVKLWYQL	SEQ ID NO: 143
RT 683-692: ELVNQIIEQL	SEQ ID NO: 144
Nef 136-145: PLTFGWCFKL	SEQ ID NO: 145
Nef 180-189: VLQWRFD SRL	SEQ ID NO: 146
Nef 190-198: ALHHVAREL	SEQ ID NO: 147
Gp41 818-826: SLLNATVDI	SEQ ID NO: 148
P24 183-191: DLNTMLNTV	SEQ ID NO: 149
RT 346-354: VIYQYMDDL	SEQ ID NO: 150
RT 588-596: PLVKLWYQL	SEQ ID NO: 152
Pro 143-152: VLVGPTPVNI	SEQ ID NO: 151
(Gp120 37-44: TVYYGVPV	SEQ ID NO: 153
(Gp120 115-122: SLKPCVKL	SEQ ID NO: 154
(Gp120 313-321: RIQRGPGRA	SEQ ID NO: 155
(Gp120 197-205: TLTSCNTSV	SEQ ID NO: 156
(Gp120 428-435: FINMWQEV	SEQ ID NO: 157
(Gp 41 836-844: VVQGAYRAI	SEQ ID NO: 158
(p24 219-228: HAGPIAPGQM	SEQ ID NO: 159
(p15 422-431: QMKDCTERQA	SEQ ID NO: 160
(p15 448-456: FLQSRPETA	SEQ ID NO: 161
(RT 681-691: ESELVNQIIEG	SEQ ID NO: 162

B7
cont.

TABLE 4: Antigenic determinants of the HIV-1 virus (continued)HLA-A3

P17 18-26: KIRLRPGGK	SEQ ID NO: 163
P17 20-28: RLRPGGKKK	SEQ ID NO: 164
RT 200-210: ALVEICTEMEK	SEQ ID NO: 165
RT 325-333: AIFQSSMTK	SEQ ID NO: 166
RT 359-368: DLEIGQHRTK	SEQ ID NO: 167
Nef 73-82: QVPLRPMTYK	SEQ ID NO: 168, 174, 12, 215
Gp120 37-46: TVYYGVPVWK	SEQ ID NO: 169
Gp41 775-785: RLRDLLLLIVTR	SEQ ID NO: 170
P17 18-26: KIRLRPGGK	SEQ ID NO: 171

HLA-A11

RT 325-333: AIFQSSMTK	SEQ ID NO: 172
RT 507-517: QIYQEPFKNLK	SEQ ID NO: 173
Nef 73-82: QVPLRPMTYK	SEQ ID NO: 174, 12, 215, 168
Nef 84-92: AVDLSHFLK	SEQ ID NO: 175, 15
p24 349-359: ACQVGPGPHK	SEQ ID NO: 176
P17 83-91: ATLYCVHQR	SEQ ID NO: 177

HLA-A24 (A9)

Gp120 52-61: LFCASDAKAY	SEQ ID NO: 178
Gp41 591-598: YLKDQQLL	SEQ ID NO: 180
or 590-597 RYLKQQLL	SEQ ID NO: 179
(RT 484-492: VYYDPSKDL	SEQ ID NO: 181
(RT 508-516: IYQEPFKNL	SEQ ID NO: 182
(RT 681-691: ESELVNQIIEG	SEQ ID NO: 183

HLA-A25 (A10)

P24 203-212: ETINEEAAEW	SEQ ID NO: 184
-------------------------	----------------

HLA-A26 (A10)

P24 167-175: EVIPMFSAI	SEQ ID NO: 185
------------------------	----------------

HLA-A30 (A19)

(Gp41 845-852: RAIRHIPRR	SEQ ID NO: 186
--------------------------	----------------

HLA-A31 (A19)

(Gp41 775-785: RLRDLLLLIVTR	SEQ ID NO: 187
-----------------------------	----------------

HLA-A32 (A19)

Gp120 424-432: RIKQIINMW	SEQ ID NO: 188
(Gp41 774-785: HRLRDLLLI	SEQ ID NO: 189
RT 559-568: PIQKETWETW	SEQ ID NO: 190

B7
cont.

TABLE 4: Antigenic determinants of the HIV-1 virus (continued)HLA-A33 (A19)

(P24 266-275 :IILGLNKIVR

SEQ ID NO: 191

HLA-B7

RT 699-707: YLAWVPAHK

SEQ ID NO: 192, 197

Nef 68-77: FPVTQVPLR

SEQ ID NO: 194

Nef 128-137: TPGPGVRYPL

SEQ ID NO: 193

Gp120 303-312: RPNNTTRKSI

SEQ ID NO: 195

Gp41 848-856: IPRRIRQGL

SEQ ID NO: 196

RT 699-707: YLAWVPAHK

SEQ ID NO: 197, 192

HLA-B8

Gp120 2-10: RVKEYQHL

SEQ ID NO: 198

P17 24-32 :GGKKKYKLK

SEQ ID NO: 199

Nef 90-97: FLKEKGGL

SEQ ID NO: 200, 22

P24 259-267: GEIYKRWII

SEQ ID NO: 201

Gp41 591-598: YLKDQQLL

SEQ ID NO: 202

(Gp41 849-856: PRRIRQGL

SEQ ID NO: 203

or 851-859: RIRQGLERIL

SEQ ID NO: 204

(P24 329-337: DCKTILKAL

SEQ ID NO: 205

(RT 185-193: GPKVKQWPL

SEQ ID NO: 206

(Nef 182-189: EWRFDSRL

SEQ ID NO: 207

HLA-B14

Gp41 589-597: ERYLKDQQL

SEQ ID NO: 208

P24 298-306: DRFYKTLRA

SEQ ID NO: 210

(P24 183-191 ? : DLNTMLNTV

SEQ ID NO: 209

(p24 304-313: LRAEQASVQEV

SEQ ID NO: 211

(p24 305-313: RAEQASVQEV

SEQ ID NO: 212

HLA-B18

(Nef 135-143: YPLTFGWCY

SEQ ID NO: 213

(Nef 135-143: YPLTFGWCF

SEQ ID NO: 214

27
cont.

TABLE 4: Antigenic determinants of the HIV-1 virus (continued)HLA-B27

P24 263-272: KRWIILGLNK	SEQ ID NO: 10
Nef 73-82: QVPLRPMTYK	SEQ ID NO: 215, 12, 174, 168
Nef 134-141: RYPLTFGW	SEQ ID NO: 19
or 133-141 : YPLTFGW	SEQ ID NO: 216
Gp41 589-597 ERYLKDQQL	SEQ ID NO: 217
(Gp41 791-800: GRRGWEALKY	SEQ ID NO: 218

HLA-B35

Gp120 78-86: DPNPQEVVL	SEQ ID NO: 219
Gp120 257-265: RPV <u>V</u> STQLL	SEQ ID NO: 220
RT 285-294: VPLD <u>K</u> DFRKY	SEQ ID NO: 221
RT 323-331: SPAIFQSSM	SEQ ID NO: 222
RT 342-350: <u>N</u> PDIVTYQY (consensus clade B)	SEQ ID NO: 223
RT 460-468: IPLTEEAEL	SEQ ID NO: 224
RT 598-608: EPIVGAETFY	SEQ ID NO: 225
Nef 68-76: FPVR <u>P</u> QVPL	SEQ ID NO: 226
Nef 74-81: VPLRPMTY	SEQ ID NO: 13
Gp41 611-619: TAVPWNASW	SEQ ID NO: 227
Gp120 42-52: VPVWKEATTTL	SEQ ID NO: 228
P17 124-132: NSS <u>Q</u> VSQNY (consensus clade B)	SEQ ID NO: 229
P24 254-262: PPIPVG <u>E</u> IY(consensus clade B)	SEQ ID NO: 9

HLA-B37

Nef 120-128: YFPDWQNYT	SEQ ID NO: 17
------------------------	---------------

HLA-B44 (B12)

P24 178-186: SEGATPQDL	SEQ ID NO: 230
(p24 175-184: LESGATPQDL	SEQ ID NO: 231

B7
cont.

TABLE 4: Antigenic determinants of the HIV-1 virus (continued)HLA-B51 (B5)

gp41 562-570: RAIEAQQHL	SEQ ID NO: 232
RT 200-208: ALVEICTEM	SEQ ID NO: 233
RT 209-217: EKEGKISKI	SEQ ID NO: 234
RT 295-302: TAFTIPSI	SEQ ID NO: 235

HLA-B52 (B5)

Nef 190-198: AFHHVAREL	SEQ ID NO: 21
------------------------	---------------

HLA-B55 (B22)

Gp120 42-51: VPVWKEATTT	SEQ ID NO: 236
-------------------------	----------------

HLA-B57 and B58 (B17)

P24 240-249: TSLTQEQIGW	SEQ ID NO: 237
Nef 116-125: HTQGYFPDWQ	SEQ ID NO: 238
or 116-124: HTQGYFPDW	SEQ ID NO: 239
Nef 120-128: YFPDWQNYT	SEQ ID NO: 17
(P24 147-155: ISPRTLNAW	SEQ ID NO: 240
(P24 164-172: FSPEVIPMF	SEQ ID NO: 241

HLA-Bw62 (B15)

P17 20-29: RLRPGGKKKY	SEQ ID NO: 242
P24 268-277: LGLNKIVRMY	SEQ ID NO: 11
RT 427-438: LVGKLNWASQIY	SEQ ID NO: 243
Nef 84-91: AVDLSHFL	SEQ ID NO: 14
Nef 117-127: TQGYFPDWQNY	SEQ ID NO: 16

HLA-Cw4

gp120 380-388: SFNCGGEFF	SEQ ID NO: 244
--------------------------	----------------

HLA-Cw8

RT 663-672: VTDSQYALGI	SEQ ID NO: 245
P24 305-313: RAEQASQEV	SEQ ID NO: 246
Nef 82-91: KAA <u>LD</u> LSHPL	SEQ ID NO: 247

HLA-Cw?

P24 308-316: QATQEVKNW	SEQ ID NO: 248
------------------------	----------------

B7
cont.

TABLE 5 - Antigenic determinants of human melanoma

Gene/protein	MHC restriction	Peptide	Amino acid positions	SEQ ID NO:
	HLA-A2	MLLAVLYCL	1-9	249
	HLA-A2	YMNGTMSQV	369-377	250
		YMDGTMSQV		252
	HLA-A24	AFLPWHRLF	206-214	251
	HLA-B44	SEIWRDIDF	192-200	253
	HLA-DR4	QNILLSNAPLGPQFP	56-70	254
		SYLQSDPDSFQD	450-462	255
Pmel17 ^{gp100}	HLA-A2	KTWGQYWQV	154-162	256
	HLA-A2	AMLGTHTMEV	177-186	257
	HLA-A2	MLGTHTMEV	178-186	258
	HLA-A2	ITDQVPFSV	209-217	259
	HLA-A2	YLEPGPVTA	280-288	260
	HLA-A2	LLDGTATLRL	457-466	261
	HLA-A2	VLYRYGSFSV	476-485	262
	HLA-A2	SLADTNSLAV	570-579	263
	HLA-A3	ALLAVGATK	17-25	264
Melan-A ^{MART-1}	HLA-A2	(E)AAGIGILTV	26(7)-35	266, 265
	HLA-A2	ILTVILGVL	32-40	267
GP ^{75TRP-1}	HLA-A31	MSLQRQFLR		268
TRP-2	HLA-A31	LLGPGRPYR	197-205	269

b7
cont.

TABLE 6: Tumour Antigenic determinants resulting from de mutations

Gene/protein	Tumour	MHC restriction	Peptide	Amino acid positions	SEQ ID NO:
MUM-1	Melanoma	HLA-B44	EEKLIVVLF	30-38	270
CDK4	Melanoma	HLA-A2	ACDPHSGHFV	23-32	271
β -catenine	Melanoma	HLA-A24	SYLDSGIHF	29-37	272
HLA-A2	Renal carcinoma			-	
CASP-8	Squamous carcinoma of head and neck	HLA-B35	FPSDSWCYF	476-484	273

b7
cont.

TABLE 7**Antigens common to different tumours**

Gene	Normal expression tissue	MHC restriction	Antigenic peptide	Amino acid positions	SEQ ID NO:
MAGE-1	Testicles	HLA-A1 HLA-Cw16	EADPTGHSY SAYGEPRKL	161-169 230-238	274 275
MAGE-3	Testicles	HLA-A1 HLA-A2 HLA-B44	EVDPIGHLV FLWGPRALV MEVDPIGHLV	168-176 271-279 167-176	276 277 278
BAGE	Testicles	HLA-Cw16	AARAVFLAL	2-10	279
GAGE-1/2	Testicles	HLA-Cw6	YRPRPRRY	9-16	280
RAGE-1	Retina	HLA-B7	SPSSNRIRNT	11-20	281
GnTV	None	HLA-A2	VLPDVFIRC	38-64	282
Mucin	Breasts during lactation	no restriction	PDTRPAPGSTAPPA HGVTSA*		283

* Aberrant transcript of the N-acetyl glucosaminyl transferase V (GnTV) found only in melanomas

TABLE 17
CD8⁺ T cells secreting γ -interferon/ex vivo assay
Number of cells secreting γ -interferon/1 x 10⁶ cells

SEQ ID NO:			V4.18 A2/11 B44/60		V4.5 (QS21) A2/11 B18/27		V4.21 (QS21) A1 B8	
			W0	W20	W0	W20	W0	W20
131	HLA-A1	NEF 121-128					1	41
132		NEF 137-145					1	6
133		NEF 184-191					6	26
134		NEF 195-202					1	1
145	HLA-A2	NEF 136-145	0	0	0	4		
147		NEF 190-198	nd	nd	4	16		
149		GAG 183-191	nd	nd	2	16		
174	HLA-A11	NEF 73-82 ^c	0	15	0	0		
175		NEF 84-92	0	55	nd	nd		
		EBN 416-424	500	500	66	63		
200	HLA-B8	NEF 90-97					1	51
207		NEF 182-189					1	26
19	HLA-B27	NEF 134-141			2	14		
10		GAG 263-272			0	9		
214	HLA-B18	NEF 135-143			0	9		

BB